# Identifying HLA Class I Restricted Peptides That Induce CD8+ T Cells Against SARS-CoV-2

## Grant Award Details

Identifying HLA Class I Restricted Peptides That Induce CD8+ T Cells Against SARS-CoV-2

**Grant Type:** Discovery Research Projects

**Grant Number:** DISC2COVID19-11941

**Project Objective:** To identify a catalog of peptides from Spike protein that bind to human HLA Class I molecules and stimulate CD8+ T cell responses, as the basis for novel cell-based vaccine development

**Investigator:**

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| **Name:** | Albert Wong |
| **Institution:** | Stanford University |
| **Type:** | PI |

**Disease Focus:** COVID-19, Infectious Disease

**Human Stem Cell Use:** Adult Stem Cell

**Award Value:** $149,999

**Status:** Active

## Grant Application Details

**Application Title:** Identifying HLA Class I Restricted Peptides That Induce CD8+ T Cells Against SARS-CoV-2

**Public Abstract:**

**Research Objective**

A vaccine to help prevent COVID-19

**Impact**

There is a clear need for a vaccine to prevent the spread of the COVID-19 coronavirus that is effective, can be rapidly produced and can be scaled for worldwide demand.

**Major Proposed Activities**

- Identify structural regions of SARS-Cov-2 that can inhibit viral entry
- Identify potential regions that can induce CD8+ T cell responses
- Confirm which regions produce peptides that bind to human HLA Class I molecules
- Confirm which peptides induce antibodies inhibit viral entry using hematopoietic and bronchioalveolar stem cells
- Identify which peptides induce CD8+ T cells that lyse cells containing Spike protein from SARS-CoV-2

**Statement of Benefit to California:**

This research will result in a vaccine candidate that can be made part of an overall vaccine composition that will protect California citizens from contracting COVID-19, allowing its people to interact freely and resume normal activities.

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